Docket: 2479.1067-001
Title: Minimal Maintenance Link to Support...
Inventors: George Rodney Nelson, Jr., *et. al.*

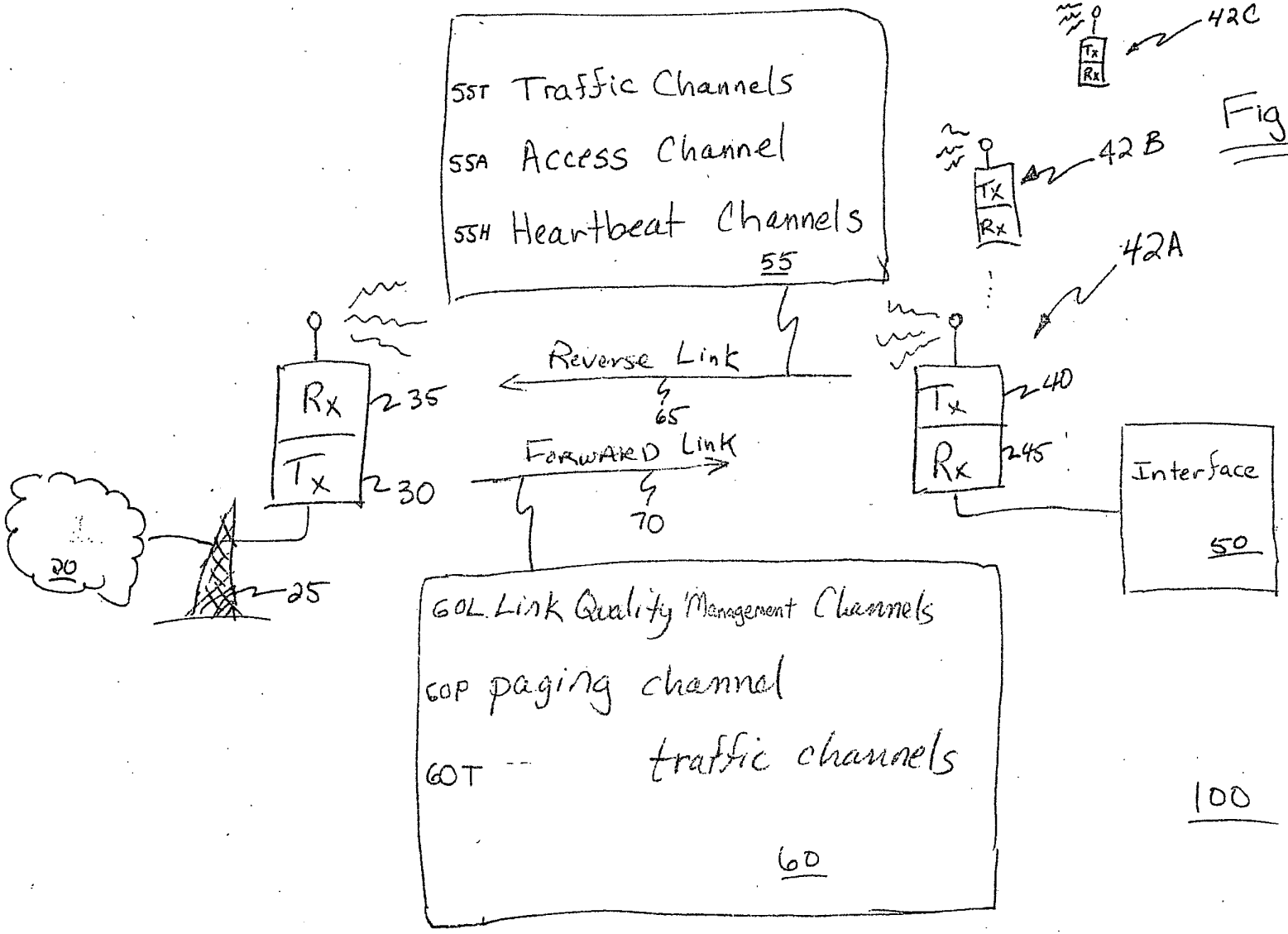

Fig. 1

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Fig. 2

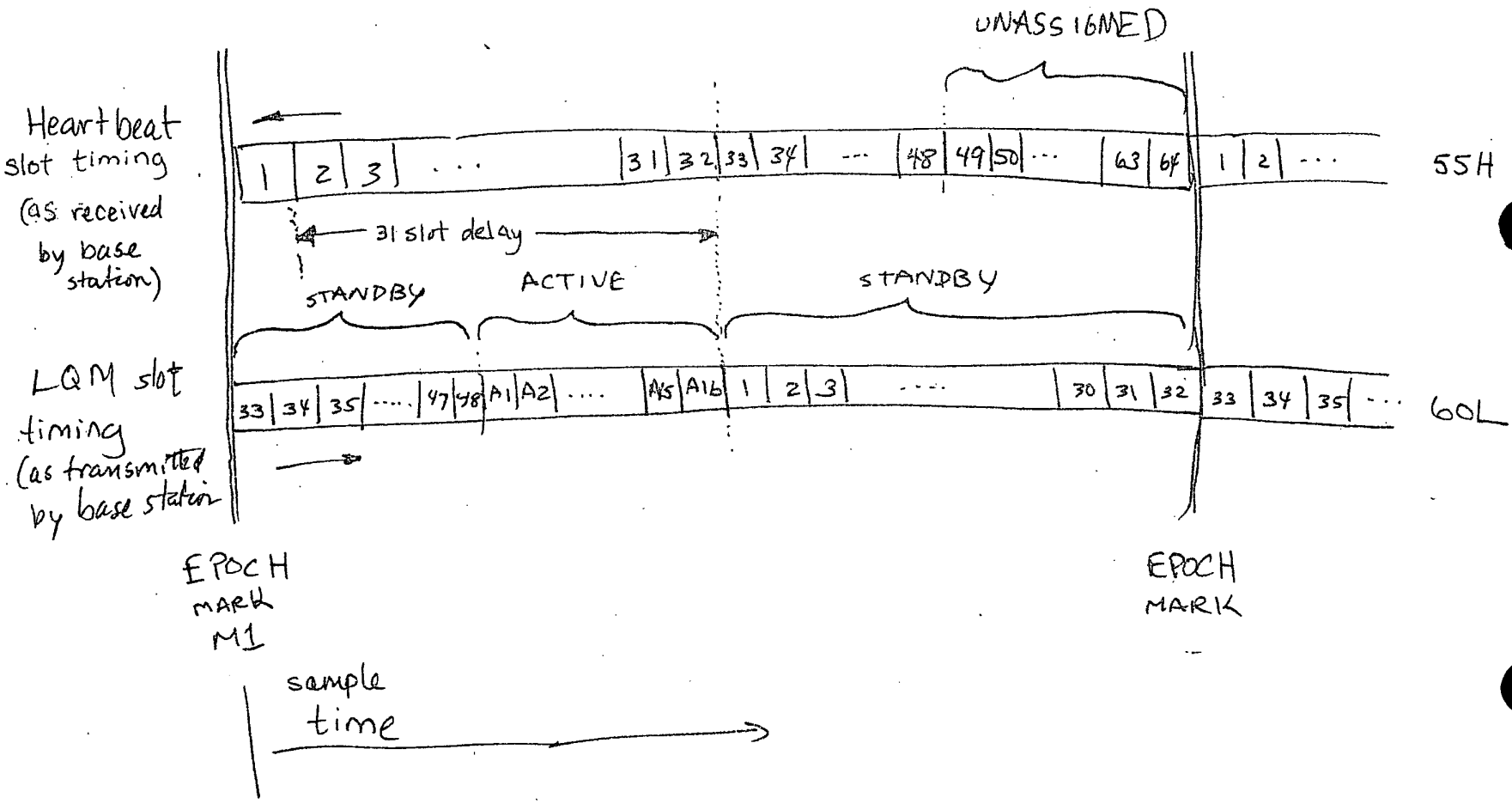
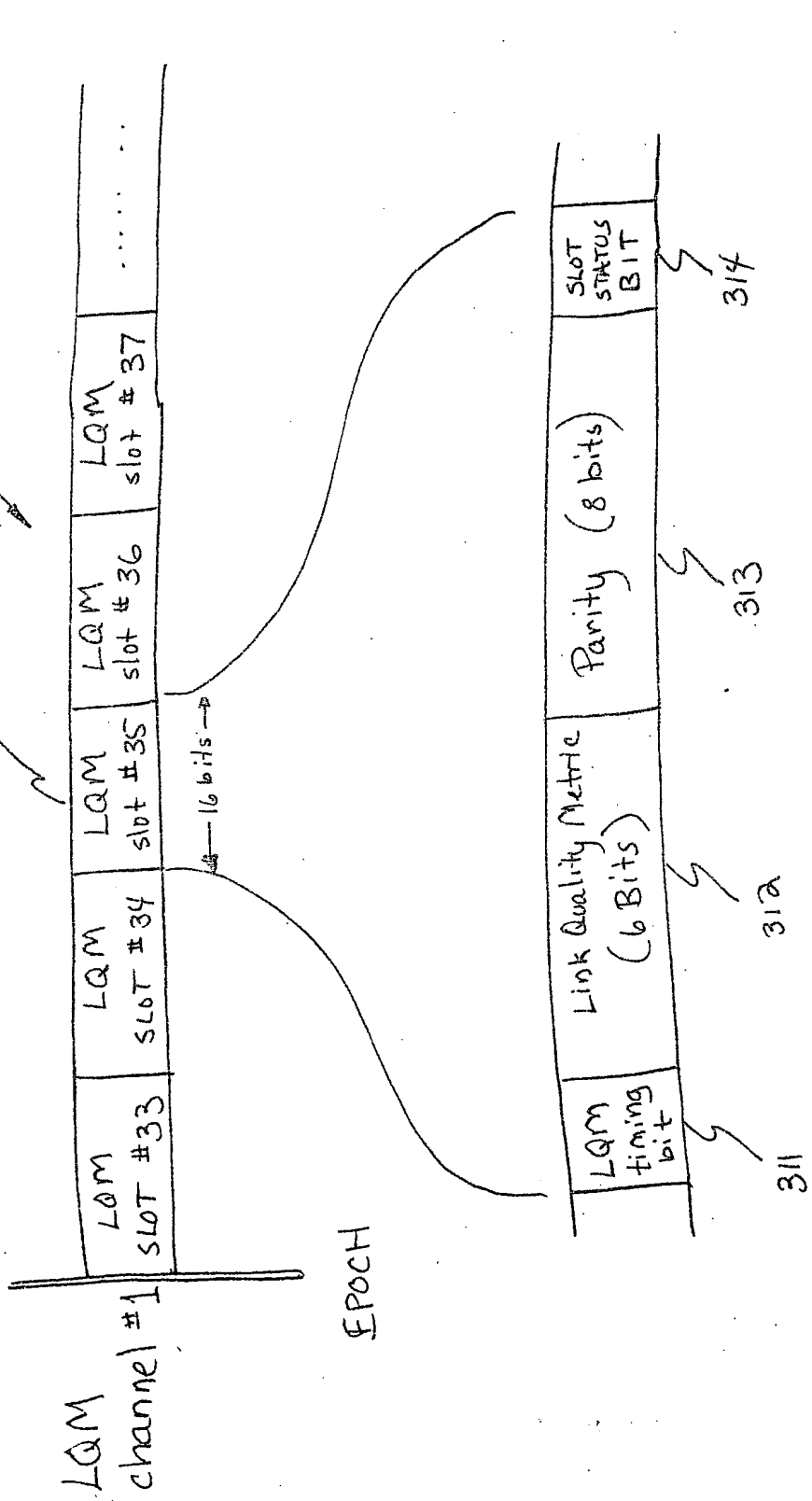


Fig. 3


LQM channel #1
EPOCH
LQM slot #33
LQM slot #34
LQM slot #35
LQM slot #36
LQM slot #37
210
16 bits
LQM timing bit
Link Quality Metric (6 Bits)
Parity (8 bits)
SLOT STATUS BIT
311
312
313
314

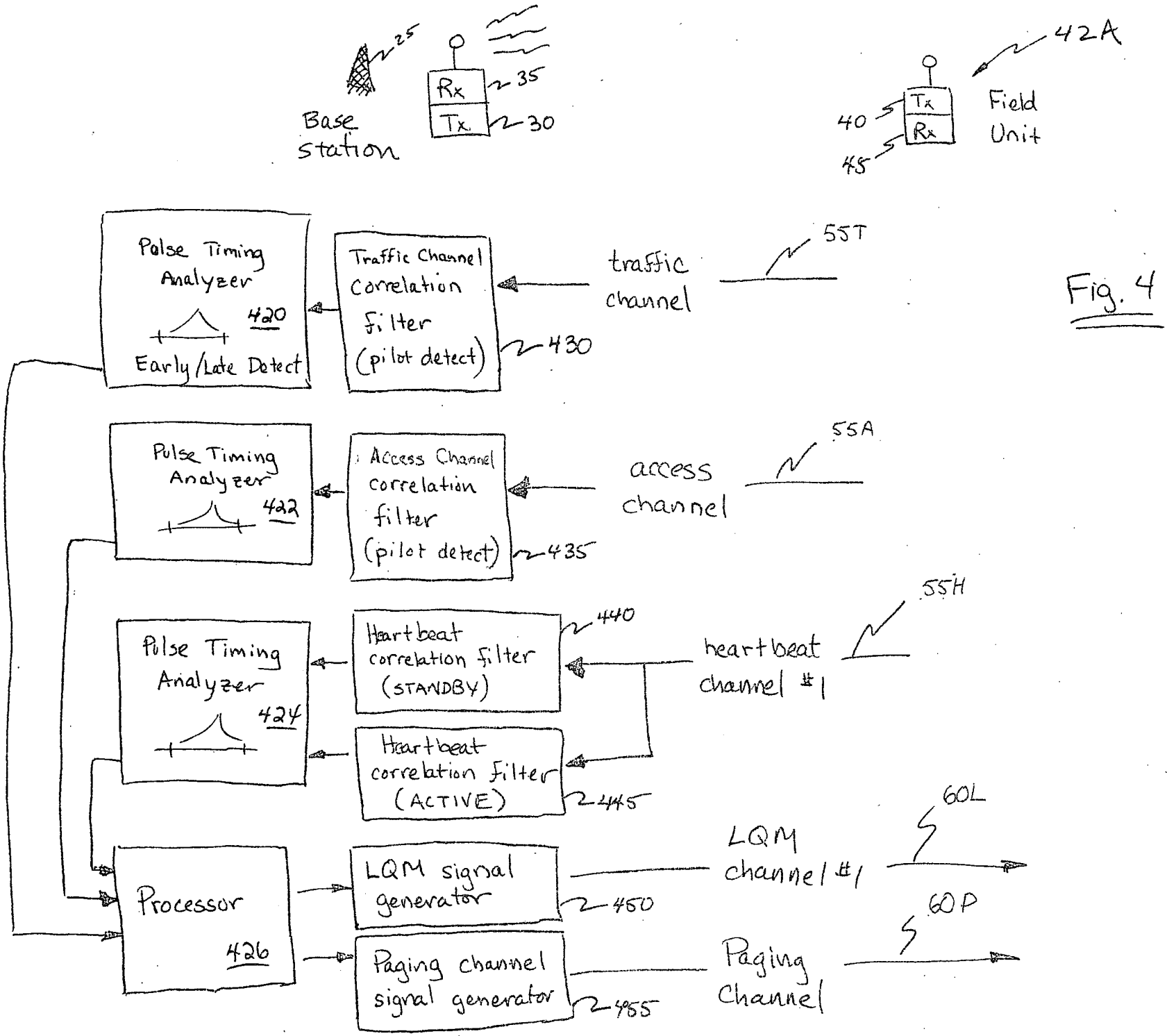

Base station
25
Rx
Tx
35
30
42A
Field Unit
40
45
Pulse Timing Analyzer
420
Early/Late Detect
Traffic Channel correlation filter (pilot detect)
430
traffic channel
55T
Pulse Timing Analyzer
422
Access Channel correlation filter (pilot detect)
435
access channel
55A
Pulse Timing Analyzer
424
Heartbeat correlation filter (STANDBY)
440
Heartbeat correlation filter (ACTIVE)
445
heartbeat channel #1
55H
Processor
426
LQM signal generator
450
LQM channel #1
60L
Paging channel signal generator
455
Paging Channel
60P

Fig. 4

Fig. 5a

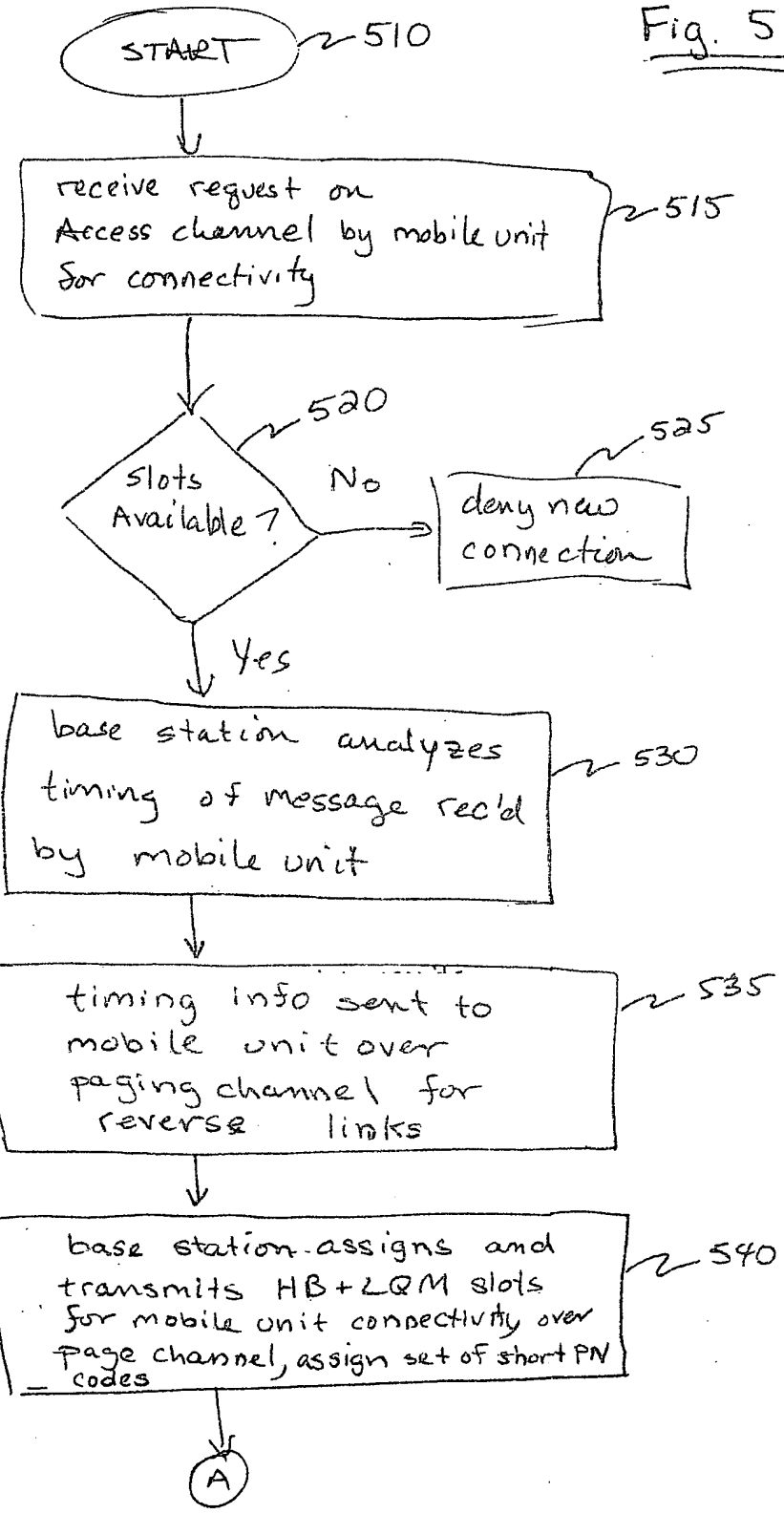
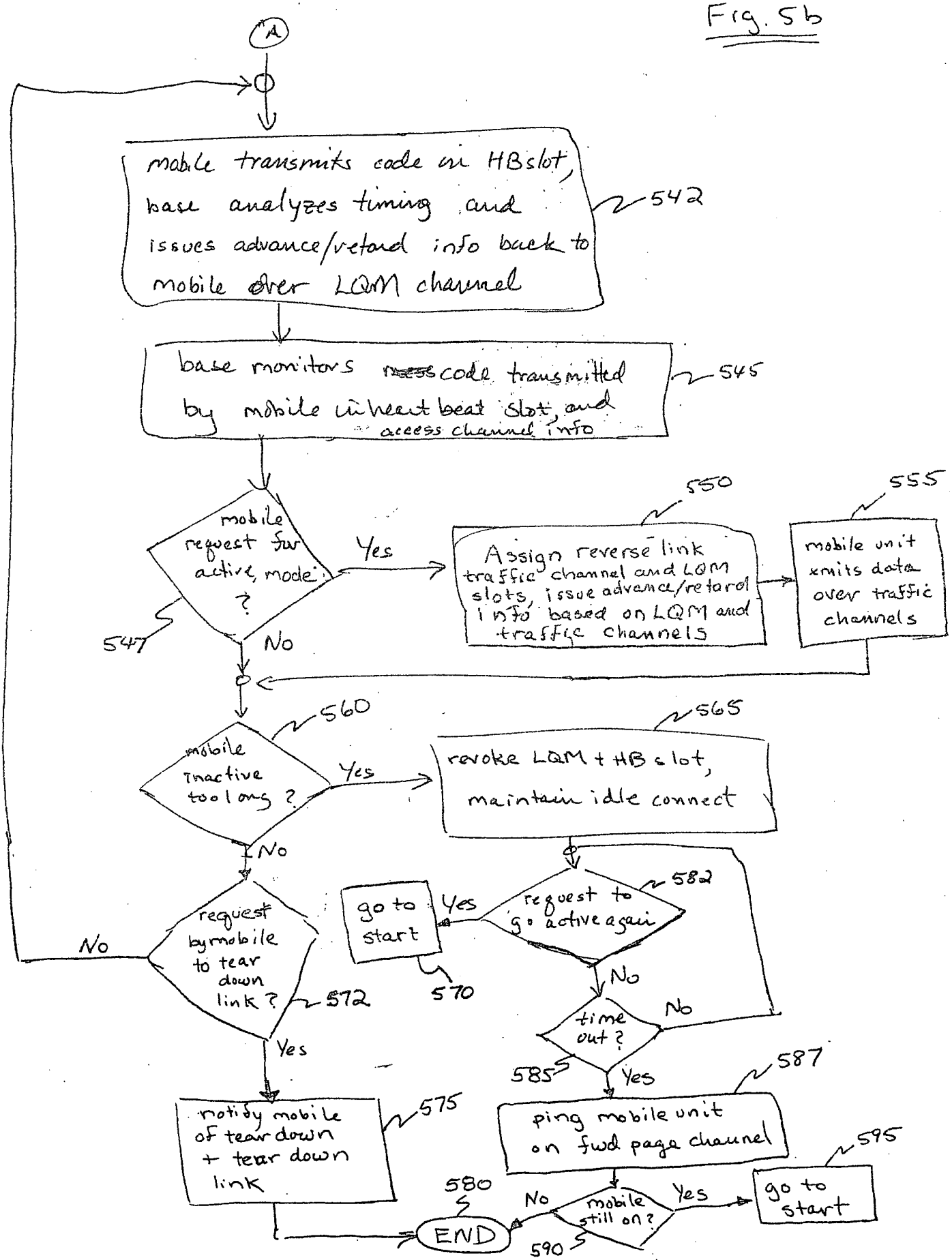

START
510
receive request on Access channel by mobile unit for connectivity
515
520
Slots Available?
No
525
deny new connection
Yes
base station analyzes timing of message rec'd by mobile unit
530
timing info sent to mobile unit over paging channel for reverse links
535
base station assigns and transmits HB+LQM slots for mobile unit connectivity over page channel, assign set of short PN codes
540
A

Fig. 5b


A
mobile transmits code in HB slot, base analyzes timing and issues advance/retard info back to mobile over LQM channel
542
base monitors ~~access~~ code transmitted by mobile in heart beat slot, and access channel info
545
mobile request for active mode ?
Yes
No
547
550
Assign reverse link traffic channel and LQM slots, issue advance/retard info based on LQM and traffic channels
555
mobile unit xmits data over traffic channels
560
mobile inactive too long ?
Yes
No
565
revoke LQM + HB slot, maintain idle connect
request by mobile to tear down link ?
No
Yes
572
go to start
570
Yes
request to go active again
582
No
time out ?
No
585
Yes
notify mobile of tear down + tear down link
575
ping mobile unit on fwd page channel
587
mobile still on ?
No
Yes
590
go to start
595
END
580

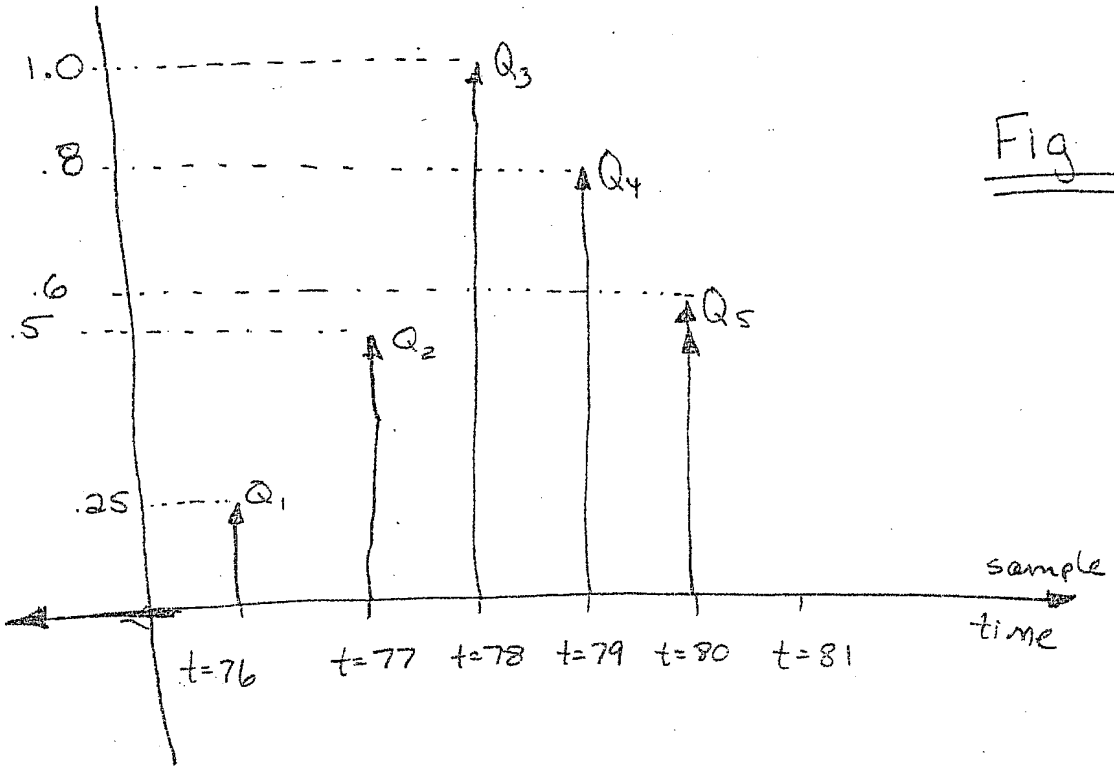


Fig 6

T0280 "2:192268

Fig. 7

mode	synchronization channels	timing reference in reverse link	assignment of traffic channels for data transfers
active	LQM + traffic	pilot symbol sequence	Yes
standby	LQM + heartbeat	short PN codes	No
idle	none	none	No

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